Claims

1. A digital component system whereas comprising an VOICE ACTIVATED-AUTOMOTIVE WINDOW DISPLAY UNIT communication system is disposed in or on a vehicle.

2. A digital component system whereas comprising a light emitting display positioned on or inside of the compartment of a vehicle, in which display screen can expand the full length, height, and width of the windshield for optimum distinction, and visualization.

3. A digital component system whereas comprising a display unit which include a micro processing component to acquire the correct priority command method from both the VOICE ACTIVATED-AUTOMOTIVE DIGITAL DISPLAY (VA-AWDU) central processing unit, and the vehicle main micro central processing unit.

4. A digital component system whereas comprising a display which is relayed voice commands from a microelectronic central processing unit through electronically component circuitry connections.

5. A digital component system whereas comprising a automotive main central processing unit having a electronic circuitry signal component processor from which current conventional lighting signals on automobiles are allocated certain degrees of singular sets of precedence over the VOICE ACTIVATED-AUTOMOTIVE WINDOW DISPLAY UNIT commands.

6. A digital component system whereas comprising an VOICE ACTIVATED-AUTOMOTIVE WINDOW DISPLAY UNIT comprises of light emitting display array.

7. A digital component system whereas comprising an VOICE ACTIVATED-AUTOMOTIVE WINDOW DISPLAY UNIT uses direct electronic circuitry connections, and components from the VOICE ACTIVATED-AUTOMOTIVE DISPLAY microelectronic central processing unit to the light emitting display.

8. A digital component system whereas comprising an AUTOMOTIVE WINDOW DISPLAY UNIT-VOICE ACTIVATOR'S function, and design is the exclusive claim of inventor.

9. A digital component system whereas comprising an VOICE ACTIVATED-AUTOMOTIVE WINDOW DISPLAY UNIT has a readable medium whose contents cause a central processing unit system to perform voice-activated connections comprising: the system having a voice-activated connection program and a natural language interface program, by performing the steps of: receiving a request to define said interface by the voice-activated connection program. Receiving a first information item by the voice activated connection program.

10. A digital component system whereas comprising an VOICE ACTIVATED-AUTOMOTIVE WINDOW DISPLAY UNIT comprises speech recognition systems and natural language systems.

11. A digital component system whereas comprising a VA-AWDU in which communicates messages and symbols to the light emitting display through voice-activated commands.

12. A digital component system whereas a driver can send communicated text or symbol message to other drivers through a micro electronic central processing unit in which messages appear on a light emitting display positioned in or on a vehicle by voice activated commands initiated by driver in control of system.

13. A digital component system whereas comprising a voice activated window display unit communication system and is disposed in or on a vehicle.

14. A digital component system whereas VOICE ACTIVATED-AUTOMOTIVE WINDOW DISPLAY UNIT comprises a voice microphone.

15. A digital component system whereas VOICE ACTIVATED-AUTOMOTIVE DISPLAY comprises a voice on indicator.

16. A digital component system whereas VOICE ACTIVATED-AUTOMOTIVE DISPLAY comprises a voice off indicator.

17. A digital component system whereas VOICE ACTIVATED-AUTOMOTIVE DISPLAY comprises a warning light signals.

18. A digital component system whereas VOICE ACTIVATED-AUTOMOTIVE DISPLAY comprises a, selection numbered indicator.

19. A digital component system whereas VOICE ACTIVATED-AUTOMOTIVE DISPLAY comprises an inactivated selections.

20. A digital component system whereas VOICE ACTIVATED-AUTOMOTIVE DISPLAY comprises an activated selection indicator.

21. A digital component system whereas VOICE ACTIVATED-AUTOMOTIVE DISPLAY comprises a generic option selection console.

22. A digital component system whereas VOICE ACTIVATED-AUTOMOTIVE DISPLAY comprises digital selection buttons for generic selections.

23. A digital component system whereas VOICE ACTIVATED-AUTOMOTIVE DISPLAY comprises a generic selection button initiator.

24. A digital component system whereas VOICE ACTIVATED-AUTOMOTIVE DISPLAY comprises a program indicator console.

25. A digital component system whereas VOICE ACTIVATED-AUTOMOTIVE DISPLAY comprises a program (list all programs) button.

26. A digital component system whereas VOICE ACTIVATED-AUTOMOTIVE DISPLAY comprises an activated program selection.

27. A digital component system whereas VOICE ACTIVATED-AUTOMOTIVE DISPLAY comprises a current running program indicator.

28. A digital component system whereas VOICE ACTIVATED-AUTOMOTIVE DISPLAY comprises a current running selection indicator.

29. A digital component system whereas VOICE ACTIVATED-AUTOMOTIVE DISPLAY comprises a systems check button.

30. A digital component system whereas comprising an VOICE ACTIVATED-AUTOMOTIVE WINDOW DISPLAY UNIT a digital component system whereas VOICE ACTIVATED-AUTOMOTIVE DISPLAY comprises a power button.

31. A digital component system whereas comprising an VOICE ACTIVATED-AUTOMOTIVE WINDOW DISPLAY UNIT comprising a voice service system, a voice recognition unit

recognizing a user's voice in response to a voice service demand by the user; a server processing information in order to provide the service demanded by the voice recognized user; and a voice synthesis unit converting the information processed by said server into text information to provide the user with the text information.

32. A digital component system whereas comprising an VOICE ACTIVATED-AUTOMOTIVE WINDOW DISPLAY UNIT voice recognition unit comprising a unit identifying a dual tone multi-frequency tone.

33. A digital component system whereas comprising an VOICE ACTIVATED-AUTOMOTIVE WINDOW DISPLAY UNIT comprising a service demand being performed according to one method selected from among a voice menu designation method and a voice searching word input method.

34. A digital component system whereas comprising an VOICE ACTIVATED-AUTOMOTIVE WINDOW DISPLAY UNIT wherein voice recognized user demands, and providing data received from the demanded site to the display after converting the voice into data through said voice synthesis unit.

35. A digital component system whereas comprising an VOICE ACTIVATED-AUTOMOTIVE WINDOW DISPLAY UNIT wherein providing the display preset schedule information for the display after converting the information into data through said voice synthesis unit, when the VA-AWDU demanded service is activated.

36. A digital component system whereas comprising a VOICE ACTIVATED-AUTOMOTIVE WINDOW DISPLAY UNIT wherein comprising: a voice recognition unit recognizing a user's voice when a voice service demand is received from the user; a server accessing information to provide the service demanded by the voice recognized user; and a voice synthesis unit converting the information accessed by said server into data information and conveying the data information to the light emitting display.

37. A digital component system whereas comprising an VOICE ACTIVATED-AUTOMOTIVE WINDOW DISPLAY UNIT wherein the user inputs the demand through VA-AWDU digital electronic connections.

38. A digital component system whereas comprising an VOICE ACTIVATED-AUTOMOTIVE WINDOW DISPLAY UNIT wherein the service demand being performed according to one method selected from among a voice menu designation method and a voice searching word input method.

39. A digital component system whereas comprising a VOICE ACTIVATED-AUTOMOTIVE WINDOW DISPLAY UNIT wherein VA-AWDU connects with display, which the voice recognized user demands, and providing data received from the demanded site to the display after converting the voice into data through said voice synthesis unit.

40. A digital component system whereas comprising a VOICE ACTIVATED-AUTOMOTIVE WINDOW DISPLAY UNIT wherein prior to determining the peak-to-mean likelihood ratio, the method further comprises: determining a short-term averaged energy for the current audio frame; and determining a long-term averaged energy for the current audio frame.

41. A digital component system whereas comprising a VOICE ACTIVATED-AUTOMOTIVE WINDOW DISPLAY UNIT wherein after determining the short-term averaged energy and the long-term averaged energy, the method further comprises: determining whether a sum of the short-term averaged energy and a factor is greater than the long-term averaged energy; and determining that the current audio frame represents silence if the sum is less than the long-term averaged energy, without necessitating a determination of the peak-to-mean likelihood ratio.

42. A digital component system whereas comprising a VOICE ACTIVATED-AUTOMOTIVE WINDOW DISPLAY UNIT wherein the voice activity detector, when executed, controls the processing unit to determine whether a sum of the short-term averaged energy and a predetermined factor is greater than the long-term averaged energy, and to signal that the current audio frame represents silence if the sum is less than the long-term averaged energy.

43. A digital component system whereas comprising a VOICE ACTIVATED-AUTOMOTIVE WINDOW DISPLAY UNIT wherein the voice activity detector, when executed, controls the processing unit to determine a peak-to-mean ratio by (1) sampling an analog signal a predetermined number of times to produce a plurality of sampled signals each having a sampled value, (2) determining a maximum value of the plurality of sampled signals, and (3) conducting a

ratio between an absolute value of the maximum value and a summation of the sampled values for the plurality of sampled signals.

44. A digital component system whereas comprising a VOICE ACTIVATED-AUTOMOTIVE WINDOW DISPLAY UNIT wherein the central processing unit program comprising: a first routine for determining a peak-to-mean likelihood ratio; and a second routine for comparing the peak-to-mean likelihood ratio to a selected threshold to determine whether an audio frame being transmitted represents a data signal.

45. A digital component system whereas comprising a VOICE ACTIVATED-AUTOMOTIVE WINDOW DISPLAY UNIT wherein a voice recognition apparatus for recognizing voice within a programmed central processing unit, comprising: a voice data reading means for reading voice data from a voice data recording medium in which the voice data is recorded; a voice recognition means for recognizing voice represented by the voice data and converting it into text data; and a display means for displaying the text data.

46. A digital component system whereas comprising a VOICE ACTIVATED-AUTOMOTIVE WINDOW DISPLAY UNIT comprising a voice recognition apparatus, wherein voice data recorded in said voice data recording medium is compressed digital voice data.

47. A digital component system whereas comprising a VOICE ACTIVATED-AUTOMOTIVE WINDOW DISPLAY UNIT wherein a recording medium having a voice recognition program recorded therein, wherein said voice recognition program causes a central processing unit to: read voice data from a voice data recording medium in which the voice data is recorded; recognize voice represented by the voice data so as to convert it into text data; and display the text data.

48. A digital component system whereas comprising a VOICE ACTIVATED-AUTOMOTIVE WINDOW DISPLAY UNIT wherein a recording medium having a voice recognition program recorded, wherein said voice recognition program further causes the central processing unit to recognize in voice or voice-recognize only a given number of words and convert them into text data at intervals of a given time when causing the central processing unit to recognize voice represented by the voice data and convert it into text data.

49. A digital component system whereas comprising a VOICE ACTIVATED-AUTOMOTIVE WINDOW DISPLAY UNIT wherein a recording medium having a voice recognition program recorded therein, wherein said voice recognition program causes a central processing unit to: read voice data from a voice data recording medium in which the voice data is recorded; recognize voice represented by the voice data so as to detect a given word, and indicate the positions of the given word.

50. A digital component system whereas comprising a VOICE ACTIVATED-AUTOMOTIVE WINDOW DISPLAY UNIT wherein a recording medium having a voice recognition program recorded therein, wherein said voice recognition program causes a central processing unit to: read voice data from a voice data recording medium in which the voice data is recorded; recognize voice represented by the voice data so as to convert it into text data; display the text data; enable designation of the text data using a designation input means; and delete a portion of the voice data corresponding to a portion of the text data designated using said designation input means from said voice data recording medium, and cancel display of the designated portion of the text data.

51. A digital component system whereas comprising a VOICE ACTIVATED-AUTOMOTIVE WINDOW DISPLAY UNIT wherein a recording medium having a voice recognition program recorded therein, said voice recognition program causes a central processing unit to: read voice data from a voice data recording medium in which the voice data is recorded; recognize voice represented by the voice data so as to convert it into text data; acquire position information of positions in said voice data recording medium, at which portions of the voice data corresponding to words of the text data are recorded, in one-to-one correspondence with the words; display the text data; enable designation of at least part of the text data using a designation input means; acquire position information of positions in said voice data recording medium, at which a corresponding portion of the voice data is recorded, according to a word contained in a portion of the text data designated using said designation input means; and delete the corresponding portion of the voice data from said voice data recording medium having the voice data recorded therein on the basis of the position information, and cancel display of the designated portion of the text data.

52. A digital component system whereas comprising a VOICE ACTIVATED-AUTOMOTIVE WINDOW DISPLAY UNIT wherein a voice recognition apparatus, comprising: a voice data reading means for reading voice data from a voice data recording medium in which the voice data is recorded; a detecting means for detecting voice data that is appended to text data and distinguishes an interval within the voice data; a voice recognition means for not recognizing voice represented by a portion of the voice data associated with the given text data, but recognizing voice represented by the other portion of the voice data; and a display means for displaying the result of recognition performed by said voice recognition means.

53. A digital component system whereas comprising a VOICE ACTIVATED-AUTOMOTIVE WINDOW DISPLAY UNIT wherein a voice recognition apparatus, wherein the voice data is recorded by a voice recording apparatus including: a voice data input means for inputting voice data; an interval designating means enabling designation of a desired interval within the voice data input by said voice data input means; a recording means for appending a voice data, which distinguishes the interval designated using said interval designating means, to the voice data and recording the voice data in a voice data recording medium; and a recording medium attaching means for use in freely detachably attaching said voice data recording medium.

54. A digital component system whereas comprising a VOICE ACTIVATED-AUTOMOTIVE WINDOW DISPLAY UNIT wherein a voice recognition apparatus, comprising: a voice data reading means for reading voice data from a voice data recording medium in which the voice data is recorded; a level adjusting means for adjusting the sound level of the voice data read by said voice data reading means according to a given procedure; a voice recognizing means for recognizing voice represented by the voice data whose sound level has been adjusted by said level adjusting means; and a display means for displaying the result of recognition performed by said voice recognizing means.

55. A digital component system whereas comprising a VOICE ACTIVATED-AUTOMOTIVE WINDOW DISPLAY UNIT wherein a voice recognition apparatus, further comprising a minimum value calculating means for calculating a minimum value of an energy level of voice

data of a given interval, wherein a criterion of said voice rating means is set on the basis of the minimum value calculated by said minimum value calculating means.

56. A digital component system whereas comprising a VOICE ACTIVATED-AUTOMOTIVE WINDOW DISPLAY UNIT wherein a voice recognition apparatus, comprising: a voice data reading means for reading voice data from a voice data recording medium in which the voice data is recorded; a voice rating means for rating the voice data read by said voice data reading means as voice full portions and voiceless portions; an averaging means for averaging absolute values of voice data items rated as the voice full portions by said voice rating means; a gain calculating means for calculating a gain on the basis of the average value; a multiplying means for multiplying the voice data by the gain; a voice recognizing means for recognizing voice represented by the voice data multiplied by the gain; and a display means for displaying the result of recognition performed by said voice recognizing means.

57. A digital component system whereas comprising a VOICE ACTIVATED-AUTOMOTIVE WINDOW DISPLAY UNIT wherein a recording medium having a voice recognition program recorded therein, wherein said voice recognition program causes a central processing unit (CPU) to: read voice data from a voice data recording medium in which the voice data is recorded; adjust the sound level of the read voice data; recognize voice represented by the voice data whose sound level has been adjusted; and display the result of voice recognition.

58. A digital component system whereas comprising a VOICE ACTIVATED-AUTOMOTIVE WINDOW DISPLAY UNIT wherein a pronunciation recognition apparatus for calculating a score indicating the likelihood of a result of pronunciation recognition applied to an input pronunciation and for recognizing the pronunciation according to the score, comprising: selecting means for selecting one or more words following words which have been obtained in a word string serving as a candidate for a result of the pronunciation recognition, from a group of words to which pronunciation recognition is applied; forming means for calculating the scores for the words selected by the selecting means, and for forming a word string serving as a candidate for a result of the pronunciation recognition according to the scores; storage means for storing word-connection relationships between words in the word string serving as a candidate for a result of the

pronunciation recognition; correction means for correcting the word-connection relationships; and determination means for determining a word string serving as the result of the pronunciation recognition according to the corrected word-connection relationships.

59. A digital component system whereas comprising a VOICE ACTIVATED-AUTOMOTIVE WINDOW DISPLAY UNIT wherein the storage means stores nodes, which can be shared as one node.

60. A digital component system whereas comprising a VOICE ACTIVATED-AUTOMOTIVE WINDOW DISPLAY UNIT wherein the storage means stores the acoustic score and the linguistic score of each word, and the starting time and the ending time of the utterance corresponding to each word, together with the connection relationships between words.

61. A digital component system whereas comprising a VOICE ACTIVATED-AUTOMOTIVE WINDOW DISPLAY UNIT wherein a voice recognition apparatus, wherein one of the selecting means, the forming means, and the correction means calculates an acoustic or linguistic score for a word, and performs processing according to the acoustic or linguistic score.

62. A digital component system whereas comprising a VOICE ACTIVATED-AUTOMOTIVE WINDOW DISPLAY UNIT wherein one of the selecting means, the forming means, and the correction means calculates an acoustic or linguistic score for each word independently in terms of time.

63. A digital component system whereas comprising a VOICE ACTIVATED-AUTOMOTIVE WINDOW DISPLAY UNIT wherein a voice recognition method for calculating a score indicating the likelihood of a result of voice recognition applied to an input voice and for recognizing the voice according to the score, comprising: a selecting step of selecting one or more words following words which have been obtained in a word string serving as a candidate for a result of the voice recognition, from a group of words to which voice recognition is applied; a forming step of calculating the scores for the words selected in the selecting step, and of forming a word string serving as a candidate for a result of the voice recognition according to the scores; a correction step of correcting word-connection relationships between words in the word string serving as a candidate for a result of the voice recognition, the word-connection relationships being stored in

storage means; and a determination step of determining a word string serving as the result of the voice recognition according to the corrected word-connection relationships.

64. A digital component system whereas comprising a VOICE ACTIVATED-AUTOMOTIVE WINDOW DISPLAY UNIT wherein a recording medium storing a program which makes a central processing unit execute voice-recognition processing for calculating a score indicating the likelihood of a result of voice recognition applied to an input voice and for recognizing the voice according to the score, the program comprising: a selecting step of selecting one or more words following words which have been obtained in a word string serving as a candidate for a result of the voice recognition, from a group of words to which voice recognition is applied; a forming step of calculating the scores for the words selected in the selecting step, and of forming a word string serving as a candidate for a result of the voice recognition according to the scores; a correction step of correcting word-connection relationships between words in the word string serving as a candidate for a result of the voice recognition, the word-connection relationships being stored in storage means; and a determination step of determining a word string serving as the result of the voice recognition according to the corrected word-connection relationships.

65. A digital component system whereas comprising a VOICE ACTIVATED-AUTOMOTIVE WINDOW DISPLAY UNIT wherein said embedded intelligence is a grammar.

66. A digital component system whereas comprising a VOICE ACTIVATED-AUTOMOTIVE WINDOW DISPLAY UNIT wherein said embedded intelligence is a reference to a grammar.

67. A digital component system whereas comprising a VOICE ACTIVATED-AUTOMOTIVE WINDOW DISPLAY UNIT wherein said grammar is dynamically added to a speech recognizer.

68. A digital component system whereas comprising a VOICE ACTIVATED-AUTOMOTIVE WINDOW DISPLAY UNIT wherein said actions come from a speech recognizer.

69. A digital component system whereas comprising a VOICE ACTIVATED-AUTOMOTIVE WINDOW DISPLAY UNIT wherein a means for modifying said grammar and a means for automatically producing an intelligent grammar from said information resource a means for processing said grammar.

70. A digital component system whereas comprising a VOICE ACTIVATED-AUTOMOTIVE WINDOW DISPLAY UNIT wherein said system includes a means for dynamically adding said grammar to a speech recognizer.

71. A digital component system whereas comprising a VOICE ACTIVATED-AUTOMOTIVE WINDOW DISPLAY UNIT wherein said system further includes a means for recognizing sentences from said grammar to follow said information resource.

72. A digital component system whereas comprising a VOICE ACTIVATED-AUTOMOTIVE WINDOW DISPLAY UNIT wherein user interface apparatus for use with a central processing unit which can receive a number of user instructions to reach one of a plurality of possible central processing unit states, wherein said user instructions can be input to said central processing unit using at least natural language as a mode of input, the user interface apparatus comprising: status means for obtaining a current state of said central processing unit; generating means responsive to the obtained current state of said central processing unit to generate information to inform a user of a natural language instruction which can be input to said central processing unit to achieve the current state of said central processing unit; and output means for outputting the generated information to the user.

73. A digital component system whereas comprising a VOICE ACTIVATED-AUTOMOTIVE WINDOW DISPLAY UNIT wherein user interface apparatus, including means for receiving a request from a user of said machine for said information, wherein said generating means is adapted to be responsive to a received request to generate said information.

74. A digital component system whereas comprising a VOICE ACTIVATED-AUTOMOTIVE WINDOW DISPLAY UNIT wherein user interface apparatus, including means for receiving a request from a user, who has input a natural language instruction to arrive at the current state, of said machine for an appropriate natural language instruction to reach the current state, wherein said generating means is adapted to be responsive to a received request to generate said information as the requested instruction.

75. A digital component system whereas comprising a VOICE ACTIVATED-AUTOMOTIVE WINDOW DISPLAY UNIT wherein user interface apparatus, wherein said status means is

adapted to maintain a data structure containing attributes defining the current state of the machine, each attribute having a number of possible values.

76. A digital component system whereas comprising a VOICE ACTIVATED-AUTOMOTIVE WINDOW DISPLAY UNIT wherein user interface apparatus, wherein each attribute has at least one natural language fragment associated therewith, and said generating means is adapted to generate said information by building up a natural language instruction from said natural language fragments for said attributes for the current state of said machine.

77. A digital component system whereas comprising a VOICE ACTIVATED-AUTOMOTIVE WINDOW DISPLAY UNIT wherein user interface apparatus, wherein each attribute has at least one natural language fragment associated therewith, and said generating means is adapted to generate said information by building up a natural language instruction from said natural language fragments for said attributes for the current state of said machine.

78. A digital component system whereas comprising a VOICE ACTIVATED-AUTOMOTIVE WINDOW DISPLAY UNIT wherein user interface apparatus, wherein said generating means is adapted to build said natural language instruction in accordance with natural language rules.

79. A digital component system whereas comprising a VOICE ACTIVATED-AUTOMOTIVE WINDOW DISPLAY UNIT wherein user interface apparatus, wherein said generating means is adapted to order said natural language fragments in accordance with order rules.

80. A digital component system whereas comprising a VOICE ACTIVATED-AUTOMOTIVE WINDOW DISPLAY UNIT wherein user interface apparatus, wherein said generating means is adapted to replace elements in the natural language instruction with other elements in dependence upon at least one of previous user interactions, preferred synonyms, user preferences, and natural language input recognition problems.

81. A digital component system whereas comprising a VOICE ACTIVATED-AUTOMOTIVE WINDOW DISPLAY UNIT wherein user interface apparatus, wherein said generating means is adapted to add natural language elements to said natural language instruction as at least one of a natural language prefix and suffix.

82. A digital component system whereas comprising a VOICE ACTIVATED-AUTOMOTIVE WINDOW DISPLAY UNIT wherein user interface apparatus, wherein said generating means is adapted to generate said information as text.

83. A digital component system whereas comprising a VOICE ACTIVATED-AUTOMOTIVE WINDOW DISPLAY UNIT wherein user interface apparatus, wherein said output means includes speech synthesis means for synthesizing speech from said text and audio output means for audibly outputting said speech.

84. A digital component system whereas comprising a VOICE ACTIVATED-AUTOMOTIVE WINDOW DISPLAY UNIT wherein user interface apparatus, wherein said generating means is adapted to generate said information as speech data.

85. A digital component system whereas comprising a VOICE ACTIVATED-AUTOMOTIVE WINDOW DISPLAY UNIT wherein processing apparatus comprising the user interface apparatus according to claim 1 and a machine which can receive a number of user instructions to reach one of a plurality of possible machine states, said machine including instructions input means to input said user instructions to said machine using at least natural language as a mode of input.

86. A digital component system whereas comprising a VOICE ACTIVATED-AUTOMOTIVE WINDOW DISPLAY UNIT wherein a user interface method for use with a machine which can receive a number of user instructions to reach one of a plurality of possible machine states, wherein said user instructions can be input to said machine using at least natural language as a mode of input, the method comprising: obtaining a current state of said machine; generating information to inform a user of natural language instructions which can be input to said machine to achieve the current state of said machine; and outputting the generated information to the user.

87. A digital component system whereas comprising a VOICE ACTIVATED-AUTOMOTIVE WINDOW DISPLAY UNIT wherein a user interface method, including receiving a request from a user of said machine for said information, wherein information is generated in response to said request.

88. A digital component system whereas comprising a VOICE ACTIVATED-AUTOMOTIVE WINDOW DISPLAY UNIT a digital component system whereas comprising a VOICE

ACTIVATED-AUTOMOTIVE WINDOW DISPLAY UNIT wherein a user interface method, including receiving a request from a user, who has input a natural language instruction to arrive at the current state, of said machine for an appropriate natural language instruction to reach the current state, wherein said information is generated as the requested instruction in response to said request.

89. A digital component system whereas comprising a VOICE ACTIVATED-AUTOMOTIVE WINDOW DISPLAY UNIT a user interface method wherein the current state of said machine is obtained as a data structure containing attributes defining the current state of the machine, each attribute having a number of possible values.

90. A digital component system whereas comprising a VOICE ACTIVATED-AUTOMOTIVE WINDOW DISPLAY UNIT wherein a user interface method, wherein each attribute has at least one natural language fragment associated therewith and said information is generated by building up a natural language instruction from said natural language fragments for said attributes for the current state of said machine.

91. A digital component system whereas comprising a VOICE ACTIVATED-AUTOMOTIVE WINDOW DISPLAY UNIT wherein a user interface method, wherein said natural language instruction is built in accordance with natural language rules.

92. A digital component system whereas comprising a VOICE ACTIVATED-AUTOMOTIVE WINDOW DISPLAY UNIT a user interface method, wherein said natural language fragments are ordered in said natural language instruction in accordance with order rules.

93. A digital component system whereas comprising a VOICE ACTIVATED-AUTOMOTIVE WINDOW DISPLAY UNIT a user interface method, including replacing elements in the natural language instruction with other elements in dependence upon at least one of previous user interactions, preferred synonyms, user preferences, and natural language input recognition problems.

94. A digital component system whereas comprising an VOICE ACTIVATED-AUTOMOTIVE WINDOW DISPLAY UNIT wherein a user interface method, including adding natural language elements to said natural instruction as at least one of a natural language prefix and suffix.

95. A digital component system whereas comprising an VOICE ACTIVATED-AUTOMOTIVE WINDOW DISPLAY UNIT wherein a user interface method, wherein said information is generated as text.

96. A digital component system whereas comprising a VOICE ACTIVATED-AUTOMOTIVE WINDOW DISPLAY UNIT wherein a user interface method, wherein said text is displayed so as to be output to the user.

97. A digital component system whereas comprising a VOICE ACTIVATED-AUTOMOTIVE WINDOW DISPLAY UNIT wherein a user interface method, including speech data synthesis from said text, wherein said speech data is used to generate audible speech output to the use.

98. A digital component system whereas comprising an VOICE ACTIVATED-AUTOMOTIVE WINDOW DISPLAY UNIT wherein a user interface method, wherein said information is generated as speech data.

99. A digital component system whereas comprising an VOICE ACTIVATED-AUTOMOTIVE WINDOW DISPLAY UNIT program code for controlling a processor to implement the method.

100. A digital component system whereas comprising an VOICE ACTIVATED-AUTOMOTIVE WINDOW DISPLAY UNIT wherein a carrier medium carrying the program code.

101. A digital component system whereas comprising a wherein VOICE ACTIVATED-AUTOMOTIVE WINDOW DISPLAY UNIT wherein speech command from the user that is described within the recognition grammar, a interface system accesses the information source and retrieves the information requested by the user.

102. A digital component system whereas comprising a VOICE ACTIVATED-AUTOMOTIVE WINDOW DISPLAY UNIT wherein a speech recognition engine, a speech synthesis engine, an interactive voice response application, a call processing system, and telephony hardware, and configured to retrieve said instruction set from said database in response to a speech command from said user, said speech command being described in said recognition grammar.

103. A digital component system whereas comprising a VOICE ACTIVATED-AUTOMOTIVE WINDOW DISPLAY UNIT wherein said content descriptor identifying the location of said information to be retrieved for said user; assigning a recognition grammar to said instruction set;

storing said instruction set and said recognition grammar on magnetic media in a database; retrieving said instruction set from said database in response to a speech command from said user described in said recognition grammar.

104. A component system whereas comprising a VOICE ACTIVATED-AUTOMOTIVE WINDOW DISPLAY UNIT communication system disposed in or on a vehicle to communicate symbols or text to other drivers of user's intentions pertaining to driving situations.

105. A component system whereas comprising a VOICE ACTIVATED-AUTOMOTIVE WINDOW DISPLAY UNIT located in the vehicle ceiling.

106. A component system whereas comprising a VOICE ACTIVATED-AUTOMOTIVE WINDOW DISPLAY UNIT located in the vehicle steering.

107. A component system whereas comprising a VOICE ACTIVATED-AUTOMOTIVE WINDOW DISPLAY UNIT located in the vehicle dash.

108. A component system whereas comprising a VOICE ACTIVATED-AUTOMOTIVE WINDOW DISPLAY UNIT located in the vehicle visor.